Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1. (currently amended) A case-hardened rolling element which is made from a steel material comprising at least 0.45 to 1.5 wt% C and one or more alloy elements selected from the group consisting of 0.1 to 0.5 wt% V and 0.3 to 1.5 wt% Cr, [[and]] said steel material containing cementite dispersed therein, wherein an average Cr concentration in the cementite ((Fe,Cr)3C) dispersed in the steel material is 2.5 to 10 wt%, and which has a rolling contact surface layer having a case-hardened layer being formed by induction heating and subsequent cooling of said rolling contact surface layer, the case-hardened layer having a structure tempered at a low temperature in which 2 to 18% by volume of cementite ~~disperses~~ is dispersed in a martensite parent phase ~~formed by induction heating and cooling and~~ , said martensite parent phase containing 0.25 to 0.8 wt% carbon

~~solid~~ [[-]] ~~dissolving therein~~ as a total carbon content in the case-hardened layer, the total carbon content being a summation of the 0.25 to 0.8 wt% carbon content in the martensite parent phase and 6.7 wt% carbon in the dispersed cementite.

Claim 2. (canceled)

Claim 3. (currently amended) The case-hardened rolling element according to claim [[2]] 1, wherein the cementite ~~dispersing~~ dispersed in the ~~quench hardened~~ rolling contact surface layer is substantially granulated and the cementite has an average particle diameter of [[the]] ~~cementite is~~ 0.1 to 1.5 μm.

Claim 4. (currently amended) The case-hardened rolling element according to claim [[2]] 1, wherein the cementite ~~dispersing~~ dispersed in the ~~quench hardened~~ rolling contact surface layer has at least a portion [[of]] thereof in a pearlitic structure.

Claim 5. (currently amended) The case-hardened rolling element according to claim **[[**2**]]** 1, wherein the ~~quench hardened~~ rolling contact surface layer contains 10 to 60% by volume retained austenite.

Claim 6. (currently amended) The case-hardened rolling element according to claim 1, made from a steel material having substantially the same composition as that of the rolling contact surface layer, the rolling contact surface layer being subjected to induction hardening so as to have a martensitic structure in which prior austenite grains are ~~fined~~ refined to a size equal to or higher than ASTM grain size No. 10.

Claim 7. (currently amended) The case-hardened rolling element according to claim 1, which is made from a steel material containing 0.5 to 3.0 wt% Si, 0.25 to 1.5 wt% Al, or 0.5 to 3.0 wt% (Si + Al); and further containing one or more alloy elements selected from the group consisting of Mn, Ni, Cr, Mo, Cu, W, B**[[**,**]]** and Ca, ~~unavoidable impurity elements such as P~~**[[**, S, N**]]**

~~and~~ [[O,]] and the balance ~~essentially consisting of~~ being Fe and unavoidable impurity elements.

Claim 8. (currently amended) The case-hardened rolling element according to claim 7, wherein 0.3 to 1.5 wt% Ni is added to the steel material containing 0.25 to 1.5 wt% ~~or more~~ Al.

Claim 9. (currently amended) The case-hardened rolling element according to claim 1,

which is made from a steel material containing at least 0.05 to 0.2 wt% in total of one or more alloy elements selected from the group consisting of Ti, Zr, Nb, Ta and Hf, and one or more compounds selected from the group consisting of the carbides, nitrides and carbonitrides of said alloy elements, said compounds having an average particle diameter of 0.1 to 5 μm and ~~dispersing~~ are dispersed within the steel material,

~~which has a~~ wherein the rolling contact surface layer ~~containing~~ contains 0.5 to 1.5 wt% C based on the total carbon content in said rolling contact surface layer, the rolling

contact surface layer having a martensite parent phase tempered at a low temperature after quenching.

Claim 10. (currently amended) The case-hardened rolling element according to claim 1, which is ~~used as~~ a gear having teeth, and wherein the relationship between **[[**the**]]** a DI value indicating the hardenability of a martensite phase and a gear module M, wherein M is a value obtained by pitch diameter divided by the number of teeth, ~~is described by~~ satisfies the following relationship: $DI \leq 0.12 \times M + 0.2$, said martensite phase being previously a ferrite phase and containing 0.25 to 0.8 wt% carbon.

Claim 11. (currently amended) The case-hardened rolling element according to claim 10, wherein said steel material contains at least 0.53 to 1.5 wt% C, 0.3 to 1.5 wt% Cr and/or 0.1 to 0.3 wt% V, 0.2 to 0.5 wt% Mn, 0.5 to 2 wt% Si, 0.2 wt% or less Mo, and 0.2 wt% or less W.

Claim 12. (currently amended) The case-hardened rolling element according to claim 10, wherein said steel material

contains at least 1.2 to 1.5 wt% C, 0.6 to 1.5 wt% Cr and/or 0.1 to 0.3 wt% V, 0.2 to 0.5 wt% Mn, 0.5 to 2 wt% Si, 0.2 wt% or less Mo, and 0.2 wt% or less W.

Claim 13. (currently amended) The case-hardened rolling element according to claim 10, wherein a compressive residual stress of 50 kgf/mm^2 or more remains at least on the surfaces of the roots of the teeth.

Claim 14. (currently amended) The case-hardened rolling element according to claim 13, wherein a compressive residual stress of 50 kgf/mm^2 or more is allowed to remain on tooth profile surface layers each ~~composed of~~ comprising a tooth top, a pitch circle position, a tooth root and a tooth bottom, by a mechanical processing means ~~such as~~ which is shot peening for generating said compressive residual stress.

Claim 15. (currently amended) The case-hardened rolling element according to claim 14, wherein a compressive residual stress of 50 kgf/mm^2 or more is allowed to remain on surface

layers at the ends of the teeth by a mechanical processing means ~~such as~~ which is shot peening for generating said compressive residual stress.

Claim 16. (canceled)

Claim 17. (currently amended) A method of producing a case-hardened rolling element from a steel material containing at least 0.45 to 1.5 wt% C and one or more alloy elements selected from the group consisting of 0.1 to 0.5 wt% V and 0.3 to 1.5 wt% Cr,

the method comprising:

a Cr ~~incrassating~~ concentration treatment step for heating the steel material such that **[[**the**]]** an average Cr concentration of cementite ~~contained~~ dispersed in the steel material ~~becomes~~ is 2.5 to 10 wt%;

an induction hardening treatment step for induction heating the steel material from a temperature equal to or lower than the A1 temperature to a quenching temperature of 900 to 1100°C within 10 seconds, followed by rapid cooling; and

a tempering treatment step for heating the steel material to 100 to 300°C.

Claim 18. (currently amended) The method of producing a case-hardened rolling element according to claim 17, wherein the Cr ~~incrassating~~ concentration treatment step is comprised of a first heating treatment and/or a second heating treatment, the heating temperature of the first heating treatment being the A1 temperature to 900°C in the two phase (cementite + austenite) region, the heating temperature of the second heating treatment being 300°C to the A1 temperature in the two phase (cementite + ferrite) region.

Claim 19. (currently amended) The method of producing a case-hardened rolling element according to claim 17, wherein the steel material contains at least 0.8 to 1.5 wt% C,

~~which further has~~ wherein the Cr concentration treatment step comprises a heating treatment at the A1 temperature to 900°C in the two phase (cementite + austenite) region, which is followed by a spheroidizing treatment step in which granular

cementite having an average particle diameter of 0.1 to 1.5 μm is dispersed by slow cooling or cooling to a temperature equal to or lower than the A1 temperature and then to a temperature equal to or higher than the A1 temperature**[[,]]** ~~after the first heating treatment of the Cr incrassating treatment step in which the cementite is incrassated at a heating temperature of the A1 temperature to 900°C in the two phase (cementite~~**[[+]]** ~~austenite) region~~.

Claim 20. (currently amended) The method of producing a case-hardened rolling element according to claim **[[**18**]]** 17, which further has a preheating treatment step in which the steel material is preheated at 300°C to the A1 temperature before the induction hardening treatment step, and

wherein the speed of heating from a temperature equal to or lower than the A1 temperature to a quenching temperature of 900 to 1100°C in the induction hardening treatment step is set to 150°C/sec or more.

Claim 21. (canceled)

Claim 22. (currently amended) The method of producing a case-hardened rolling element according to claim 17, further

~~having~~ comprising a mechanical treatment step in which a compressive residual stress of 50 kgf/**[[**mm2**]]** mm^2 or more is generated**[[,]]** by a treatment ~~such as~~ which is shot peening, in a part or the whole of the rolling contact surface layer of the rolling element after the induction hardening treatment step.